



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,640	08/19/2003	Fumihiko Nakazawa	030931	3730

38834 7590 12/28/2006
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

AMADIZ, RODNEY

ART UNIT	PAPER NUMBER
----------	--------------

2629

MAIL DATE	DELIVERY MODE
-----------	---------------

12/28/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/642,640	NAKAZAWA ET AL.	
	Examiner	Art Unit	
	Rodney Amadiz	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-11,16 and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-11,16 and 18-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/13/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 18 and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Masuda (USPGPUB 2002/0172031).

As to **Claim 18**, Masuda teaches a touch panel device comprising: a touch panel for detecting a touched position (***See Figs. 15d and 24 and note reference numbers 32, 33, 34, 36 and 38 which constitute a touch panel***); and a lighting device including a light source (***Fig. 24, reference number 10***), a light guiding part on which light is incident from said light source (***Fig. 24, reference number 20b***), and a light guiding and emitting part for guiding light propagated through said light guiding part so as to emit the light as planar light to an outside (***Fig. 24, reference numbers 20a and 25***), wherein the light to be guided to the outside from said light guiding and emitting part is emitted from a side opposite to a side on which the touched position is to be detected (***See Fig. 24, note that 20a, 26 and 25 are on the opposite side from which the touch position is detected***), wherein said light guiding and emitting part is a step-like structure formed on said light guiding part (***Pg. 10, ¶ 153***).

Art Unit: 2629

As to **Claim 20**, Masuda teaches an adhesive agent layer (***Fig. 24, Adhesive Layer 28***) for bonding said substrate of said touch panel and said light guiding part of said lighting device together (***See Masuda-Pg. 9, ¶ 148***).

As to **Claim 22**, Masuda teaches an adhesive agent layer (***Fig. 24, Adhesive Layer 28***) for bonding said touch panel and said light guiding part of said lighting device together (***See Masuda-Pg. 9, ¶ 148***).

As to **Claims 21 and 23**, Masuda teaches the optical refractive indices of said substrate, said light guiding part, and said adhesive agent layer are indicated by n_1 , n_2 , and n_3 , respectively, the optical refractive indices n_1 , n_2 , and n_3 satisfy the following conditions: $n_1 \approx n_3 \approx n_2$ (***See Masuda-Pg. 12, ¶ 180***).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 6, 16 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda (USPGPUB 2002/0172031) in view of An (USPGPUB 2002/0154250).

As to **Claim 1**, Masuda teaches a touch panel device comprising: a touch panel for detecting a touched position (***See Figs. 15d and 24 and note reference numbers 32, 33, 34, 36 and 38 which constitute a touch panel***); and a lighting device including a light source (***Fig. 24, reference number 10***), a light guiding part on which light is

Art Unit: 2629

incident from said light source (**Fig. 24, reference number 20b**), and a light guiding and emitting part for guiding light propagated through said light guiding part so as to emit the light as planar light to an outside (**Fig. 24, reference numbers 20a and 25**), wherein the light to be guided to the outside from said light guiding and emitting part is emitted from a side opposite to a side on which the touched position is to be detected (**See Fig. 24, note that 20a, 26 and 25 are on the opposite side from which the touch position is detected**), wherein the light guiding part and light guiding and emitting part constitute a single optically transparent substrate (**Fig. 1, Reference Number 20**).

Masuda, however, does not teach that the light guiding and emitting part propagates through an ultrasonic wave through an optically transparent substrate and senses a change in a propagation state of the ultrasonic wave due to a touch of an object with said substrate so as to detect a position where the object is touched. Examiner cites An to teach that a light guiding and emitting part propagates an ultrasonic wave through an optically transparent substrate and senses a change in a propagation state of the ultrasonic wave due to a touch of an object with said substrate so as to detect a position where the object is touched (**See Fig. 11 and ¶ 59**). However, An also teaches that the light guide is integrally formed on the touch panel by lamination (**An—Pg. 5. ¶ 61**). An, however, fails to specifically teach the touch panel and light guide integrated as one substrate. Therefore, Examiner cites *In re Larson*, 144 USPQ 347 (CCPA 1965) to teach that it is well known to integrate plural parts so that they may constitute a unitary whole. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to integrate the light guiding part, light guiding and emitting part

Art Unit: 2629

and the touch panel as taught by An into a single optically transparent substrate so as to simplify the process of manufacturing thereby reducing the overall cost.

As to **Claim 16**, Masuda teaches a light source for emitting light which is to be incident on said substrate (**Fig. 24, reference number 10**); and said substrate guides the light incident on the substrate from said light source so as to emit the light to an outside (**Fig. 24, reference numbers 20a and 25**), wherein said substrate is configured so that the light incident on said substrate from said light source is guided and emitted to the outside from a face of said substrate opposite to a face where the touched position is to be detected (**Masuda—See Fig. 24, note that 20a, 26 and 25 are on the opposite side from which the touch position is detected**). Masuda, however, does not teach a touch panel device in which an ultrasonic wave is propagated through an optically transparent substrate and a change in a propagation state of the ultrasonic wave due to a touch of an object with said substrate is sensed to detect a position where the object is touched. Examiner cites An to teach that a light guiding and emitting part propagates an ultrasonic wave through an optically transparent substrate and senses a change in a propagation state of the ultrasonic wave due to a touch of an object with said substrate so as to detect a position where the object is touched (**See Fig. 11 and ¶ 59**). However, An also teaches that the light guide is integrally formed on the touch panel by lamination (**An—Pg. 5, ¶ 61**). An, however, fails to specifically teach the touch panel and light guide integrated as one substrate. Therefore, Examiner cites *In re Larson*, 144 USPQ 347 (CCPA 1965) to teach that it is well known to integrate plural parts so that they may constitute a unitary whole. At the time the

Art Unit: 2629

invention was made, it would have been obvious to a person of ordinary skill in the art to integrate the light guiding part, light guiding and emitting part and the touch panel as taught by An into a single optically transparent substrate so as to simplify the process of manufacturing thereby reducing the overall cost.

As to **Claim 19**, Masuda teaches a touch panel (*See Figs. 15d and 24 and note reference numbers 32, 33, 34, 36 and 38*); however, he does not state whether the touch panel is resistive. Examiner cites An to teach a resistive touch panel wherein said touch panel senses a change in resistance of a resistance film due to a touch of an object with said resistance film so as to detect a position where the object is touched (*An—See Figs 7 and 8 and ¶'s 45-47*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the use of a resistive touch pad as taught by An in the touch pad taught by Masuda in order to reduce the manufacturing cost of the touch panel.

As to **Claim 4**, Masuda teaches said light guiding and emitting part is a step-like structure formed on said light guiding part (*Pg. 10, ¶ 153*).

As to **Claim 6**, Masuda teaches an optical refractive index of said light guiding and emitting part that is not less than an optical refractive index of said light guiding part (*See Pg. 4, ¶ 76*).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda and An as applied to Claim 1 above, and further in view of Nakabayashi et al. (USPGPUB 2001/0019479).

As to **Claim 5**, the modified touch panel of Masuda and An does not teach a formation direction of the step-like structure forms an angle of not more than 32.5.degree. with respect to a normal direction of a face of said light guiding part. Examiner cites Nakabayashi et al. to teach a formation direction of the step-like structure forms an angle of not more than 32.50 degrees with respect to a normal direction of a face of said light guiding part (**See Fig. 43 and Pg. 19, ¶ 335**). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form angles of no more than 32.50 degrees as taught by Nakabayashi et al. in the modified touch panel taught by Masuda and An in order to direct the unrequested reflected light outside the angle of visibility (**See Nakabayashi et al. Pg. 19, ¶ 335**).

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda and An as applied to Claim 1 above, and further in view of Fumiaki et al. (JP06-235917).

As for **Claim 7**, the modified touch panel of Masuda and An does not teach said light guiding and emitting part is a plurality of protrusions formed on said light guiding part. Examiner cites Fumiaki et al. to teach said light guiding and emitting part is a plurality of protrusions (**Fig. 1, factor portions 28**) formed on said light guiding part (**14**). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the light guiding and emitting part of a plurality of protrusions as taught by Fumiaki et al. into the modified touch panel taught by Masuda

Art Unit: 2629

and An in order to effectively reflect the light off of the protrusions so that a high luminance thin type lighting system may be produced.

As for **Claim 8**, the further modified touch panel of Masuda, An and Fumiaki et al. teaches an optical refractive index of said protrusions that is not less than an optical refractive index of said light guiding part (*Fumiaki-See abstract*).

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda and An as applied to Claim 1 above, and further in view of Ito et al. (U.S. Patent 6,892,009).

As to **Claim 9**, the modified touch panel device of Masuda and An does not teach the light guiding and emitting part being a plurality of grooves formed in said light guiding part. Examiner cites Ito to teach the light guiding and emitting part being a plurality of grooves formed in said light guiding part (*Ito—Fig. 2, Groove 14*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form a plurality of grooves on a light guide plate as taught by Ito et al. in the modified touch panel taught by Masuda and An in order to reflect the light of a touch panel light with high efficiency.

As to **Claim 10**, Masuda teaches the light guiding and emitting part forming angles of 35 degrees to 55 degrees with respect to a normal direction of a face of said light guiding part (*See Pg. 12, ¶ 181*).

Art Unit: 2629

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda and An as applied to Claim 1 above, and further in view of Kubo et al. (U.S. Patent 6,456,279).

As to **Claim 11**, the modified touch panel device of Masuda and An does not teach said light guiding and emitting part is a plurality of prisms formed on said light guiding part. Examiner cites Kubo et al. to teach a plurality of prisms formed on said light guiding part (*See Fig. 7, note micro-prisms 8 and Col. 10, lines 15-24*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form a plurality of prisms on a light guide plate as taught by Kubo et al. in the modified touch panel taught by Masuda and An in order to reflect the light of a touch panel light with high efficiency (*Kubo—Col. 9, lines 11-20*).

Response to Arguments

9. Applicant's arguments, see pages 9-11, filed December 11, 2006, with respect to the rejection(s) of claim(s) 1, 9, 10 and 16 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made. As to claims 1 and 16, Examiner agrees with the applicant that the touch panel and light guide are laminated together; however, the Examiner sets forth case law to show that integration is not a patentable distinction. As to Claims 9 and 10, Examiner introduces Ito et al.

Art Unit: 2629

10. Applicant's arguments filed December 11, 2006 have been fully considered but they are not persuasive. As to Claim 6, Applicant argues that paragraph 76 of Masuda does not teach claim 6 (Pg. 10, ¶ 3). However, paragraph 76 states that the refractive index of the reflecting films is 1.63 and the refractive index of the light guide layer is 1.49; therefore, it is clearly seen that the refractive index of the light guiding and emitting part is more than the refractive index of the light guiding part and hence reads on claim 6. As to Claim 18, Examiner relies on page 10, paragraph 153 of Masuda to teach that it is well known for the light guiding and emitting part to be a step-like structure formed on the light guiding part (See figs. 40a and 40b).

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Amadiz whose telephone number is (571) 272-7762. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

R.A.

R.A.

Division 2629

12/21/06



SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER